

#15.

Hawaiian Explorations.

D<sup>r</sup>. 4035-4051.

H<sup>x</sup>. 4484-4516.

July 9<sup>th</sup> - July 14<sup>th</sup>, '02.

10.72.60

7 49.20

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22.40

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

597.  
*Hutchinson*  
 No. *Hy 4484* Date *July 9<sup>th</sup> '02.*  
*Tanner* Machine. — Reel.  
 Turns *13* Cor. + *1* Depth *14 fms*  
 Shot or lead *26 lbs.*  
 Bottom *fine co S. For am.*  
 Bottom temperature *—*  
 No. of thermometer *—* Cor.  
 Corrected temperature  
 Air *78* Surface *78* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>10-03.10</i>	<i>04.05</i>	0		
<i>Marks ind of No 4034</i>		100		
		200		
		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Diamond Head Light, N 20° W., 22.0'

<div> <div>OK</div> <div>11:00</div> <div>11:00</div> </div> <div> <div>496</div> <div>13</div> <div>483</div> </div>		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
		3500	
	12	3600	
		3700	
		3800	
		3900	
		4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Kest No's	15	Hy	4035
50				4484
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

*Hutchinson*  
 No. *4035* Date *July 9<sup>th</sup>*  
*Tanner* Machine. Reel.  
 Turns *31* Cor. + *1* Depth *32 fms*  
 Shot or lead *26 lbs*  
 Bottom *Foam. cor co S. Sh.*  
 Bottom temperature  
 No. of thermometer *77* Cor.  
 Corrected temperature *(123° E)*  
 Air *78* Surface *78* Drift *4/10*  
 Trawl or dredge *8 Shale in jar (lamp)*

SOUNDING WIRE.		TURNS	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>10-14.15</i>	<i>14.50</i>	<i>0</i>	<i>10-28.25</i>	<i>11-01.10</i>
<i>14.25</i>	<i>14.30</i>	<i>65</i>	<i>31.40</i>	
		<i>75</i>	<i>35.00</i>	
		<i>85</i>	<i>37.00</i>	<i>57.20</i>
		<i>100</i>		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Diamond Head Light, N 21° W, 23.0'

OK  
5000

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
496	3300	12
31	3400	
465	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Tangles			
50				
100				
200	S. Gilbert notes			" Not on
300				
	bottom "			
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

507.  
*Hutchinson*  
 No. *Hy 4485* Date *9<sup>th</sup> July '02*  
*Sigsbee* Machine. # *1* Reel. *Star*  
 Turns *351* Cor. + *35* Depth *386 fms*  
 Shot or lead *36 lbs* *Spine.*  
 Bottom *fine Foram.* Sea within *1*  
 Bottom temperature *41*  
 No. of thermometer *92446* Cor.  
 Corrected temperature  
 Air *78* Surface *78* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>11.09.10</i>	<i>19.55</i>	0		
<i>10.45</i>	<i>18.45</i>	100		
<i>11.55</i>	<i>17.30</i>	200		
<i>13.10</i>	<i>16.10</i>	300		
<i>13.45</i>	<i>15.20</i>	<i>351</i> <del>400</del>		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

*Marks end of*  
*N<sup>o</sup> 4035*

Diamond Head Light, N 21° W, 23<sup>5</sup>/<sub>10</sub>'.

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

OK  
500  
2

496

351  
35

386

#### SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No. *Hy. 4486* Date *10 July 1902.*  
*Sigsbee* Machine / Reel. *Navy*  
 Turns *1396* Cor. + *128* Depth *1524 fms.*  
 Shot or lead *35 lbs.*  
 Bottom *fine gm. s. Mott*  
 Bottom temperature *35.1*  
 No. of thermometer *92446* Cor.  
 Corrected temperature  
 Air *79°* Surface *78°* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>8.04.40</i>	<i>8.41.20</i>	0		
<i>05.50</i>	<i>40.20</i>	100		
<i>06.55</i>	<i>39.20</i>	200		
<i>08.10</i>	<i>38.20</i>	300		
<i>09.35</i>	<i>37.20</i>	400		
<i>10.55</i>	<i>36.20</i>	500		
<i>12.10</i>	<i>35.10</i>	600		
<i>13.30</i>	<i>34.10</i>	700		
<i>14.50</i>	<i>33.05</i>	800		
<i>16.10</i>	<i>32.00</i>	900		
<i>17.25</i>	<i>30.50</i>	1000		
<i>18.50</i>	<i>29.55</i>	1100		
<i>20.10</i>	<i>28.20</i>	1200		
<i>21.40</i>	<i>27.00</i>	1300		
<i>8.22.10</i>	<i>8.25.25</i>	<i>1396</i>		
		<del>1400</del>		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

SW Approach to Alenuihaha Channel,  
between Kahoolawe & Hawaii Ids -

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

Kawaihale Light,  
S 79° E., 61.0

4830  
1396  
3434

257  
129  
128  
1396

1544 fms.

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

571  
 Date 10 May, 1902  
 Sigsbee Machine / Reel  
 Turns 1665 Cor. + 107 Depth 1815 fms.  
 Shot or lead 35 lbs.  
 Bottom gy. s. bk. sh.  
 Bottom temperature 58.0  
 No. of thermometer 92446 Cor.  
 Corrected temperature  
 Air 81° Surface 78° Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
11.12.15	54.10	0		
12.10	52.55	100		
14.10	51.50	200		
15.10	50.45	300		
16.10	49.45	400		
17.20	48.40	500		
18.20	47.40	600		
19.25	46.35	700		
20.55	45.20	800		
22.15	44.25	900		
23.55	43.15	1000		
25.50	42.00	1100		
26.10	40.55	1200		
27.50	39.10	1300		
28.50	38.25	1400		
30.15	37.05	1500		
31.40	35.50	1600		
11.32.10	11.34.30	1665		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kauaihae Light, S 80° E., 45.0'

		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
		3500	
		3600	
4830.	2500.	3700	
1665	107	3800	
<u>2165</u>	<u>150</u>	3900	
	1665	4000	
	<u>1815</u>		

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No. *4455* Date *July 10, 1902*Machine. *Sigsbee* Reel. *0000*Turns *1087* Cor. + *103* Depth *1190 fms*Shot or Lead *35*Bottom *gy. bk. gy. s. brn*Bottom temperature *35.8*No. of thermometer *75476* Cor.

Corrected temperature

Air *84* Surface *77* Drift~~Trawl or dredge~~

## SOUNDING WIRE.

## DREDGE ROPE.

DOWN.

UP.

TURNS.

DOWN.

UP.

*me*  
*3-12-10*  
*14 =*  
*14-55*  
*15-45*  
*16-45*  
*17-40*  
*18-40*  
*19-50*  
*21-50*  
*22-10*  
*23-30*  
*24-30*

*35 =*  
*37-55*  
*39-50*  
*41-50*  
*43-50*  
*45-50*  
*47-50*  
*49-50*  
*51-50*  
*53-50*  
*55-50*  
*25-30*

0  
 100  
 200  
 300  
 400  
 500  
 600  
 700  
 800  
 900  
 1000  
 1100  
 1200  
 1300  
 1400  
 1500  
 1600  
 1700  
 1800  
 1900  
 2000  
 2100  
 2200  
 2300  
 2400

Kauaihae Light, 8820 E., 34.0'

		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
4530	357	3500	
1087	152	3600	
3743	103	3700	
	1057	3800	
	1190	3900	
		4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No. *4036* Date *10<sup>th</sup> July 02.*

Machine. Reel.

Turns *621* Cor. + *62* Depth *683* fms

Shot or lead *60* lbs

Bottom *fine H. G. M. S. L.*

Bottom temperature *38.5*

No. of thermometer *72445* Cor.

Corrected temperature

Air *89* Surface *78*

Drift *{ N 66° E  
1 3/10'*

Trawl or dredge *52 ft. beam trawl*

SOUNDING WIRE.

DREDGE ROPE.

DOWN.	UP.	TURNS.	DOWN.	UP.
<i>5.20</i>	<i>4.02.1</i>	0	<i>4.11.00</i>	
	<i>05.00</i>	100	<i>16.10</i>	<i>19.20</i>
<i>5.10</i>	<i>06.00</i>	200	<i>17.00</i>	
<i>5.00</i>	<i>07.00.10</i>	300	<i>18.20</i>	<i>19.20</i>
<i>4.50</i>	<i>08.00</i>	400	<i>19.20</i>	
<i>4.40</i>	<i>09.00</i>	500	<i>20.10</i>	<i>19.40</i>
<i>4.30</i>	<i>10.00</i>	600	<i>21.20</i>	
<i>4.20</i>	<i>11.00</i>	<i>621</i>	<i>26.20</i>	<i>17.00</i>
		700		
		800		
		900		
		1000	<i>4.10.00</i>	
		<i>1050</i>		
		1100		
		1200	<i>7.00</i>	
		1300		<i>17.00</i>
		1400		
		1500		
<i>* On bottom</i>		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

West Coast of Hawaii Island,  
Kauaihae Light, S 80° E, 24 <sup>2</sup>/<sub>10</sub> '.

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	The temperature was taken in this water, one of the thermometers has been improved by Mr. Alexander by the use of the tube, to which the glass is attached, and the tube is placed in the water and the thermometer is altered accordingly.			
50				
100				
200				
300				
400				
500				
600				
700				
800	The temperature was taken in this water, one of the thermometers has been improved by Mr. Alexander by the use of the tube, to which the glass is attached, and the tube is placed in the water and the thermometer is altered accordingly.			
900				
1000				

REMARKS:

Blake Trawl = Many simple corals;  
2 sp. sponges - few; 2 sp. worms - few; 2  
sp. starfish - 1 each; 2 sp. urchins - 1  
phormosoma, 2 sp. squids (few);  
1 shrimp; 1 pelicyptid; 1 gorgonia.

100.6

No. 4037 Date 10<sup>th</sup> 1902

Machine. / Reel.

Turns 29 Cor. + 63 Depth 692

Shot or lead 60

Bottom gy M. Form. R.

Bottom temperature 38

No. of thermometer 72 Cor.

Corrected temperature

Air 87 Surface 80 Drift

Trawl or dredge 52 ft. Trawl with 20 m.

SOUNDING WIRE.

DREDGE ROPE.

DOWN.	UP.	TURNS.	DOWN.	UP.
1.46.00		0	42.30	10.30
2.00		100	43.20	16.30
2.10	2.00	200	5.10	9.03.10
2.20	2.10	300	5.45	57.40
2.30	2.20	400	5.55	55.30
2.40	2.30	500	7.01.10	51.45
2.50	2.40	600	7.05.30	47.00
3.00	2.50	700	7.10.10	42.50
		800	12.30	30.10
		900	16.30	17.15
		1000	21.20	11.00
		1100	25.10	8.04.00
		1200	7.29.00	7.57.50
6.47.30	6.57.30	1300		
		1400		21 min.
7.01.40	7.11.40	1500		
		1600		
7.15.00	7.25.00	1700		
		1800		
7.28.00	7.38.00	1900		
		2000		
7.41.00	7.51.00	2100		
		2200		
7.54.00	8.04.00	2300		
		2400		

This Marked end of D. Rope

Barometrical height 18° 21' 27.5'

	2500	Surface hauls =
	2600	Pink copepods at first
	2700	very abundant, then dimin-
	2800	ishing and disappearing.
	2900	Young crabs, stomatopods
	3000	and other crustacea
	3100	in small numbers.
	3200	Sagitta abundant,
	3300	ctenophores and
	3400	piphenophore bells <u>not</u>
	3500	abundant.
	3600	
	3700	
	3800	
	3900	
	4000	

634  
13  
67  
4830 257

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	61.0	111	0.0	61.0
50	59.5	111	0.0	59.5
100	58.0	111	0.0	58.0
200	56.5	111	0.0	56.5
300	55.0	111	0.0	55.0
400	53.5	111	0.0	53.5
500	52.0	111	0.0	52.0
600	50.5	111	0.0	50.5
700	49.0	111	0.0	49.0
800	47.5	111	0.0	47.5
900	46.0	111	0.0	46.0
1000	44.5	111	0.0	44.5

Black Trawl =  
Fragments of gorgonian with  
attached ophiocreas.

# REMARKS:

Heavy strain (4000 and over) while hauling  
in dredge wire up to 700 fms., when  
ceased but to 500 fms. -  
Bridle stops covered away, net cap.  
Rigged. Frame wrenched; net slightly torn;  
Bowl extremely meager. -  
Course (from 2000) E. by N.

No. *Dr. 4038*. Date *10 June '02**Sigsbee* Machine. \* / Reel. *Barry*Turns *626* Cor. + *63*Depth *689 fms.*Shot or lead *60 lb.*Bottom *gy. M. for.*Bottom temperature *38.5*No. of thermometer *72446* Cor.

Corrected temperature

Air *80°* Surface *76°*Drift *(N 70° W) 1 1/10'*Trawl or dredge *5' 2' Dredge with...*

## SOUNDING WIRE.

DOWN.

UP.

TURNS.

*Pm* DREDGE ROPE.

DOWN.

UP.

*9.15.10* *9.29.10*

0

*9.49.00* *11.29.05**15.55* *28.05*

100

*25.10**16.40* *27.05*

200

*56.55* *21.40**17.25* *26.00*

300

*10.00.10* *18.00**18.10* *24.55*

400

*03.20* *14.15**18.55* *23.40*

500

*06.50* *10.45**19.40* *22.20*

600

*10.30* *08.10**7.10.50* *9.22.00**626*

700

*14.00* *11.01.30*

800

*17.20* *56.55*

900

*21.20* *53.00*

1000

*\* 25.40* *49.10*

1100

*10.36.30* *10.45.05*

1200

1300

*20 min.*

1400

1500

1600

1700

1800

1900

2000

2100

2200

2300

2400

*\* On bottom.*

Hawaiian Light, 41° 50' N 155° 00' W

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
625 68 689 fms.	3600	
	3700	
	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Blake Trawl.			
50	Few simple corals 17- one Aps;			
100	1 sp. sponge; 1 each of 2 sp. worms;			
200	1 crab; 1 shrimp; 1 Holothurian;			
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Dr. Converse at Sea (2.) N. H.

No. *Dr. 4039*. Date *10 July '02*.*Sigsbee* Machine. *1* Reel. *Heavy*Turns *609*. Cor. + *61* Depth *670 fms.*Shot or lead *60* Lbs.Bottom *gy. M. S. m.*Bottom temperature *38.7*No. of thermometer *92446* Cor.

Corrected temperature

Air *79°* Surface *76°* Drift *1 1/10'*Trawl or dredge *5 1/2' Beam trawl**Down* SOUNDING WIRE.

DREDGE ROPE.

DOWN.

UP.

TURNS.

DOWN.

UP.

*11.36.00* *11.50.15* *0**36.50* *49.10* *100**37.45* *48.10* *200**38.40* *47.10* *300**39.40* *46.00* *400**40.40* *44.45* *500**41.50* *43.21* *600**11.41.52* *11.43.20* *609**700**800**900**1000**1100**1200**1300**1400**1500**1600**1700**1800**1900**2000**2100**2200**2300**2400**12.04.50* *07.30**08.30* *03.25**12.10* *20 min**15.30* *56.15**19.05* *52.00**22.05* *47.50**24.50* *45.10**28 =* *37.35**31.35* *31.50**35.25* *27 =**39.25* *21.30**42.00* *1-10.10**=**33 min*

Kauai Light, 17.° 30' E. 24' 10.

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
600	3800	
61	3900	
600	4000	

#### SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Blake Trawl =			
50	Porogonian fragment; about			
100	15 purple corals; 1 phormosoma;			
200	several small sea urchins; 1 holothurian;			
300	1 cephalopod; 1 shrimp;			
400	1 ophiuran; 1 worm; 1 fish			
500				
600				
700				
800				
900				
1000				

#### REMARKS:

Partly used in the morning  
by the 18th of March - 1890  
10. Knot.

D. V. Brown, 1890 (C. 1890)

No. *4040* Date *July 11<sup>th</sup> 02.*  
 Machine. *Reel.*  
 Turns *634* Cor. + *63* Depth *697 fms*  
 Shot or lead *60 lbs.*  
 Bottom *gy M. For.*  
 Bottom temperature *38.7*  
 No. of thermometer *73446* Cor.  
 Corrected temperature  
 Air *78* Surface *77* Drift *1.0*  
 Trawl or dredge *5 1/2 Blake with open*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>2: 12.40</i>	<i>28.40</i>	0	<i>2: 38.05</i>	<i>4. 31.80</i>
<i>13.40</i>	<i>27.55</i>	100	<i>42.30</i>	<i>1. 50</i>
<i>14.40</i>	<i>27.10</i>	200	<i>46.35</i>	<i>2. 40</i>
<i>15.35</i>	<i>26.15</i>	300	<i>50 =</i>	<i>3. 00</i>
<i>16.30</i>	<i>25.15</i>	400	<i>53.30</i>	<i>3. 45</i>
<i>17.20</i>	<i>24.55</i>	500	<i>56.55</i>	<i>4. 05</i>
<i>18.10</i>	<i>24.00</i>	600	<i>3- 01.10</i>	<i>5. 20</i>
<i>19 =</i>	<i>23.10</i>	<i>634</i>	<i>04.20</i>	<i>4. 34.10</i>
		<i>700</i>	<i>08.30</i>	<i>39.20</i>
		800	<i>12.20</i>	<i>54.10</i>
		900	<i>16.40</i>	<i>49.30</i>
		1000	<i>21 =</i>	<i>2. 15</i>
		1100		
		1200		
		1300	<i>23 M</i>	<i>15. 15</i>
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kuamoa Bay Light, 81° 15' 5.1" W. 10'.

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
630	3200	
	3300	
	3400	
	3500	
	3600	
4520	3700	257
	3800	
	3900	
	4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Blank	Trawl		
50				
100				
200				
300				
400	No catch; bag torn.			
500				
600				
700				
800				
900				
1000				

# REMARKS:

Cat log read 61.8 at beginning  
and 62.4 at end of station.  
Now 1.1 sec. during etc.

In course N. E. 2 E (approx.)

No. 11189 Date July 11. 02  
 Machine. / Reel. K. W. W.  
 Turns 643 Cor. + 64 Depth 707 (m)  
 Shot or lead 60 lb  
 Bottom gy. M. Forams  
 Bottom temperature 38.2  
 No. of thermometer 92446 Cor.  
 Corrected temperature  
 Air 77 Surface 76 Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
4.42.10	4.57.15	0		
43.10	56.10	100		
44.00	55.10	200		
44.50	54.10	300		
45.50	53.00	400		
46.50	51.45	500		
47.50	50.25	600		
48.15	49.45	643		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kurikha light. 171° 15' E. 25 5/10'

2500

2600

2700

2800

2900

3000

3100

3200

3300

3400

3500

3600

3700

3800

3900

4000

4710 257

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

P. S. 67.4.

No. *11490* Date *11 Aug 1902*  
*Reel* Machine *Reel*  
 Turns *605* Cor. + *60* Depth *665 fm*  
 Shot or lead *60*  
 Bottom *gy M. Form.*  
 Bottom temperature *38.6*  
 No. of thermometer *92446* Cor.  
 Corrected temperature  
 Air *77* Surface *76* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>11.12.10</i>	<i>h. 25.10</i>	0		
<i>12.00</i>	<i>24.00</i>	100		
<i>13.00</i>	<i>23.00</i>	200		
<i>14.45</i>	<i>22.00</i>	300		
<i>15.30</i>	<i>21.00</i>	400		
<i>16.30</i>	<i>20.00</i>	500		
<i>17.20</i>	<i>19.15</i>	600		
<i>17.20</i>	<i>—</i>	<i>605</i>		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kanai-Bal Light. 1° 15' N. 94° 10' E.

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No. 1491 Date 1 May 07  
 Machine. Reel. 4  
 Turns 628 Cor. + 76 Depth 621 fms  
 Shot or lead 60  
 Bottom gy M. Forams  
 Bottom temperature 39.2  
 No. of thermometer 72446 Cor.  
 Corrected temperature  
 Air 78 Surface 76 Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
19.00	7.31.10	0		
19.50	30.00	100		
20.30	29.00	200		
21.30	28.00	300		
22.15	27.00	400		
23.00	26.15	500		
7.23.40	7.25.10	565		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Konrad Light, 25° 15' N, 17° 30' W.

OK  
1000.  
2000

565  
565  
6

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Reel 7-4

No. *4492*. Date *Aug 22*.  
*Sigsbee* Machine. Reel. *Reel*  
 Turns *543* Cor. + *54* Depth *597 fms.*  
 Shot or lead *60 lbs.*  
 Bottom *gy M. Form.*  
 Bottom temperature *39°*  
 No. of thermometer *92446*. Cor.  
 Corrected temperature  
 Air *80°* Surface *77°* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
8.18.30	8.30.40	0		
19.20	29.40	100		
20.15	28.35	200		
21.05	27.30	300		
22.10	26.20	400		
23.15	25.05	500		
8.23.45	8.24.30	543		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kinnikinnick Light, 12-2-18-1

OK 150 1/2		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
		3500	
		3600	
	543	3700	
	54	3800	
	597 fms.	3900	
		4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

P.L. 82.4

No. *1041* Date *11 July '02.*

*Sigsbee* Machine. \* / Reel. *Wiley*

Turns *347* Cor. + *35* Depth *382 fms.*

Shot or lead *60 lbs.*

Bottom *gy M. Forams.*

Bottom temperature *41.6*

No. of thermometer *92446.* Cor.

Corrected temperature *(8588)*

Air *83°* Surface *77°* Drift *(1 1/2)*

Trawl or dredge *8' Tanner & Allen.*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>9.18.45</i>	<i>9.56.25</i>	0	<i>9.21.20</i>	<i>10.55.10</i>
<i>19.35</i>	<i>55.30</i>	100	<i>35.10</i>	<i>51.30</i>
<i>20.20</i>	<i>54.30</i>	200	<i>36.30</i>	<i>29.10</i>
<i>21.20</i>	<i>53.20</i>	300	<i>42.10</i>	<i>24.45</i>
<i>9.21.45</i>	<i>9.22.45</i>	<i>347</i>	<i>45.5</i>	<i>20.55</i>
		400	<i>47.5</i>	<i>17.55</i>
		<i>485</i>	<i>* 50.0</i>	<i>15.55</i>
		500	<i>51.30</i>	<i>10.10.00</i>
		600		
		700		
<i>* On bottom</i>		800	<i>52.30</i>	<i>7.10</i>
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kauai Kai Light. S67 30' E., 10.0'

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

347

35

382 fms.

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Tanner Trawl =			
50	1 neoscopelus; 1 each 2 sps			
100	macrurus; 1 brisinga; 1 gorgonian;			
200	3 sps. anemones - 2 on gorgonian			
300	and 1 on gastropod; 2 starfish;			
400	2 ophiurans; 2 spatangoids; 2 sps.			
500	worms - 1 in tubes of lava fragments;			
600	14 sps gastropod 2; 2 sps sponges;			
700	2 balanoglossus; about 8 sps			
800	shrimps; 5 sps Holothurians;			
900	dentobalanus			
1000				

REMARKS:

On bottom at 800 fms. S. 25.

No. *Dr. 4042*, Date *11 July '02*.*Sigsbee* Machine *Navy*Turns *230* Cor. + *23* Depth *252 fms.*Shot or lead *60 Lbs.*Bottom *gy M. foram. R*Bottom temperature *45.9*No. of thermometer *92446* Cor.

Corrected temperature

Air *80°* Surface *77°* Drift *S 1/2 E*Trawl or dredge *8' Tanner & Allen*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>10.40.50</i>	<i>10.45.50</i>	0	<i>10.52.00</i>	<i>11.00.30</i>
<i>41.35</i>	<i>44.45</i>	100	<i>55.50</i>	<i>36.00</i>
<i>42.25</i>	<i>42.30</i>	200	<i>58.20</i>	<i>33.50</i>
<i>10.42.35</i>	<i>10.43.15</i>	230	<i>11.03.00</i>	<i>28.45</i>
		300	<i>11.04.45</i>	<i>22.00</i>
		400		
		450		
		475		<i>11.16.55</i>
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

*Strain of 3500 Lbs*  
*reel out dredging*  
*wire to 475 before*  
*commencing to leave in*  
*Heavy strain while*  
*leaving in up to about*  
*450 fms., when gradu-*  
*ally eased up to bet.*  
*1500 of 2000 Lbs.*  
*At 315 fms. strain*  
*suddenly eased to*  
*500 Lbs.*

Kamohar Light. S 70° 30' E, 8 1/10'.

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
230	3600	
22	3700	
252 fms.	3800	
	3900	
	4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

# REMARKS:

Frame and Net (8' Tanner Trawl) and  
Apron lost; Reel and weight same  
imp.

Dr. Course (for S. C.) S. E.

No. 4493. Date 11 Feb '02

Sigsbee Machine. \* / Reel. Navy

Turns 208 Cor. + 21 Depth 229 fms.

~~Shot~~ or lead 36 Lbs.

Bottom gy M. For.

Bottom temperature 46.

No. of thermometer 92446 Cor.

Corrected temperature

Air 80° Surface 77° Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
11.43.30	11.50.10	0		
44.10	49.10	100		
45.55	48.10	200		
11.46.00	11.46.50	208 300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Alia marked  
at  
11.40.12.

Kauai Light, 872015'E, 7<sup>2</sup>/<sub>10</sub>'.

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
208	3700	
21	3800	
229	3900	
	4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Cat. Log. S.H. H

No. 5043

Date July 11<sup>th</sup> 1902.

Machine. #1 Reel.

Turns 515 Cor. +

21

Depth 206 fms

Shot or lead 35

Bottom gy. s. M. R

Bottom temperature

46.9°

No. of thermometer 72446 Cor.

Corrected temperature

Air 82

Surface 77

Drift

Trawl or dredge 5 1/2' Blake with

5 1/2' Blake with

SOUNDING WIRE.

DREDGE ROPE.

DOWN.

UP.

TURNS.

DOWN.

UP.

12-11.00

15.50

0

12-21.10

13 45.

11.35

14.40

100

25 =

10.30

12.30

13.50

200

28.40

07.05

12.35

13.15

300

32.10

1- 03.50

375

35.20

59.30

400

500

600

700

800

900

1000

1100

1200

1300

1400

1500

1600

1700

1800

1900

2000

2100

2200

2300

2400

24 min

Kauai Light, S 74° 30' E., 5 <sup>1</sup>/<sub>10</sub> miles

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Blake Trawl =			
50				
100	2 spp. holothuria; 1 pennatulid;			
200	1 Dentalium			
300				
400				
500				
600				
700				
800				
900				
1000				

# REMARKS:

5500 ft. from when comm-  
enced hauling in. & some  
lighter stuff down, but  
not really torn.

50 fathoms S.E. (see

No. *5044* Date *11 July 02.*

Machine. Reel.

Turns *312* Cor. + *21* Depth *333 fms*~~Shot or lead~~ *36 lbs*Bottom *gy. gy. S.*Bottom temperature *17.0*No. of thermometer *92446* Cor.

Corrected temperature

Air *55* Surface *72* Drift *(S 1/2 E)*Trawl or dredge *Smith's beam trawl*

## SOUNDING WIRE.

DOWN.

UP.

TURNS.

## DREDGE ROPE.

DOWN.

UP.

<i>12.30</i>	<i>22.50</i>	0	<i>12.30</i>	<i>24.15</i>
<i>13.00</i>	<i>21.50</i>	100	<i>28.00</i>	<i>20.15</i>
<i>13.45</i>	<i>19.50</i>	200	<i>31.00</i>	<i>15.00</i>
<i>14.00</i>	<i>17.45</i>	300	<i>35.45</i>	<i>10.50</i>
<i>14.15</i>	<i>15.45</i>	400	<i>39.00</i>	<i>10.15</i>
<i>14.45</i>	<i>13.45</i>	500	<i>42.00</i>	<i>10.50</i>

600

700

800

900

1000

1100

1200

1300

1400

1500

1600

1700

1800

1900

2000

2100

2200

2300

2400

*21 min*

Humidat Sept 1880 30' E, 5 7/10'

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Fangles.			
50	3 sps. crabs; 2 munida;			
100	2 sps. holothuria; 1 antedon; 2 sps.			
200	spatangoids; 5 sps. ophiurans;			
300	4 sps. starfish; long-spined			
400	urchins; 3 sps. barnacles attached			
500	to urchin spine.			
600				
700				
800				
900				
1000				

REMARKS:

Dr Cruise S. E. (1880)

No. *4046* Date *July 02.*

Machine. Reel.

Turns *153* Cor. + *15* Depth *168 fms*

Shot or lead *36 lbs.*

Bottom *gy. s. for*

Bottom temperature *49.5*

No. of thermometer *72446* Cor.

Corrected temperature

Air *86* Surface *75* Drift *(000 E)*

Trawl or dredge *8 fms. beam trawl*

SOUNDING WIRE.

DOWN.

UP.

TURNS.

DREDGE ROPE.

DOWN.

UP.

*2- 26.40*  
*27.00*  
*28.20*

*26.40*  
*28.20*  
*29.30*

0

100

200

300

*350*  
~~400~~

500

600

700

800

900

1000

1100

1200

1300

1400

1500

1600

1700

1800

1900

2000

2100

2200

2300

2400

*2- 28.05*

*29.50*

*31.30*

*49.30*

*53.00*

*55.00*

*28.05*

*29.50*

*19.30*

*15.35*

*13.13*

Kauai-hal Light, N 82° 30' E, 4  $\frac{1}{16}$ '.

2500	Tangled;
2600	many muricea;
2700	4 sps crab; 2 sps
2800	hermits; many
2900	dentalium; 2 sps
3000	urchins; sev'l sps
3100	ophiurans; 2 sps
3200	starfish; several
3300	brachiopods; sev'l
3400	pimple corals; 3
3500	sps. branched corals;
3600	sev'l sps. molluscan
3700	shells.
3800	
3900	
4000	

## SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Note =			
50	The tangles used for the			
100	first time at this station			
200	had 14" thermometers			
300	instead of 15" ones and a			
400	staff in foreground.			
500	In June in 1915 temp			
600	tangle gauge was broken and			
700	a bright N. wind failed over			
800	the head of the canyon, with			
900	haze to sea over through			
1000	the bright light so that it			
	was in fact a little less			

REMARKS: The ~~value~~ value of  $\alpha$  obtained is ~~corrected~~ from the experiment.

Mr. James J. E. (1844-)

*Thompson*  
 No. *4046* Date *11/30/12*  
 Machine. # *1* Reel. *1*  
 Turns *134* Cor. + *1* Depth *135 fms*  
 Shot or lead *36*  
 Bottom *gy. m.*  
 Bottom temperature *57.0*  
 No. of thermometer *92446* Cor.  
 Corrected temperature *(83.0 C)*  
 Air *75* Surface *75* Drift *1.0*  
 Trawl or dredge *5' beam trawl*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
30.30	36.30	0	37.10	4.00
31.30	34.50	100	42.10	4.00
31.55	34.05	200	45.50	4.00
		225	46.50	4.07.30
		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kuamoo Bay Light. N 52° E., 3 <sup>4</sup>/<sub>10</sub> '.

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Tangles =			
50				
100	2 sp. gorgonians;			
200	3 sp. of anemones; 1 sp. of sea urchin			
300	1 sp. of coral; 1 sp. of gorgonian;			
400	1 species of; 1 species of;			
500	gorgonia.			
600				
700				
800				
900				
1000				

REMARKS:

2 forms of gorgonian were found off all bottom land, but none.

No more S. S. (gorg.)

No. 114 Date 11 July 1902

Machine. Reel. No. 1

Turns Cor. + Depth 71 fms

Shot or lead

Bottom G. S. Co. G

Bottom temperature 69.4

No. of thermometer 74126 Cor.

Corrected temperature

Air 87 Surface 79 Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
11:22.10	11:25.10	0		
11:23.20	11:26.10	100		
		200		
		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Remarks: N 29° 30' E., 4.0'

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

*July* *P. 89.4*  
 No. *4047* Date *11* *1902*  
 Machine. Reel.  
 Turns *197* Cor. + *6* Depth *217.0*  
 Shot or lead  
 Bottom *fine G. S. R*  
 Bottom temperature *47.6*  
 No. of thermometer *92446* Cor.  
 Corrected temperature  
 Air *85°* Surface *78°* Drift *14 W*  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>12:00</i>	<i>5:15.00</i>	0	<i>12:00</i>	<i>07.40</i>
<i>12:05</i>	<i>16.05</i>	100	<i>12:05</i>	<i>08.50</i>
<i>12:10</i>	<i>11.00</i>	197	<i>12:10</i>	<i>10.00</i>
		300	<i>12:15</i>	<i>11.10</i>
		400	<i>12:20</i>	<i>12.20</i>
		500	<i>12:25</i>	<i>13.30</i>
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kauai Light, N 64° E, 8<sup>5</sup>/<sub>10</sub>.

2500

2600

2700

2800

2900

3000

3100

3200

3300

3400

3500

3600

3700

3800

3900

4000

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Blake Trawl =			
50				
100	"No specimens" — empty haul.			
200				
300				
400				
500				
600				
700				
800				
900				
1000				

## REMARKS:

Bag of net empty haul.

*Spiller*  
 No. *4495* Date *11 July 1902*  
 Machine. *Taney* Reel.  
 Turns *211* Cor. + *21* Depth *232*  
 Shot or lead *36 lb*  
 Bottom *fm. gy. s.*  
 Bottom temperature *46.5°*  
 No. of thermometer *9446* Cor.  
 Corrected temperature  
 Air *82* Surface *78* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>6:10.30</i>	<i>15.15</i>	0		
<i>11.50</i>	<i>14.10</i>	100		
<i>12.00</i>	<i>13.50</i>	200		
<i>12.10</i>	<i>13.40</i>	<i>211</i>		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kauri Bay Light 2166° E. 8 <sup>5</sup>/<sub>10</sub>'

2500

2600

2700

2800

2900

3000

3100

3200

3300

3400

3500

3600

3700

3800

3900

4000

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No. *223* Date *11 July 1902*  
*Sigsbee* Machine. Reel. *1000*  
 Turns *223* Cor. + *72* Depth *241 fms*  
 Shot or lead *35#*  
 Bottom *fine gy. S. for.*  
 Bottom temperature *47.0*  
 No. of thermometer *72446* Cor.  
 Corrected temperature  
 Air *82* Surface *78* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>6:17.40</i>	<i>6:54.05</i>	0		
<i>44.40</i>	<i>53.00</i>	100		
<i>50.35</i>	<i>51.50</i>	200		
<i>56.30</i>	<i>57.56</i>	<i>223</i>		
		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

1000

REMARKS:

No.

4048

Date

11 July 1902

Turns

340

Cor. +

Reel.

Depth

314 fms

Shot or lead

60

Bottom

fine gy. S. R.

Bottom temperature

41.7

No. of thermometer

924166

Cor.

Corrected temperature

Air

82

Surface

78

Drift

(N 25° W)  
1 15/10'

Trawl or dredge

Van Dine dredge

## SOUNDING WIRE.

## TURNS.

## DREDGE ROPE.

DOWN.

UP.

DOWN.

UP.

7. 2. 15. 00

7. 2. 15. 00

0

7. 4. 00

7. 3. 15. 00

7. 3. 15. 00

100

7. 6. 00

7. 4. 30. 00

7. 4. 30. 00

200

7. 8. 00

7. 5. 45. 00

7. 5. 45. 00

300

7. 10. 00

7. 6. 15. 00

7. 6. 15. 00

400

7. 11. 15. 00

7. 7. 30. 00

7. 7. 30. 00

500

7. 12. 30. 00

7. 8. 45. 00

7. 8. 45. 00

600

7. 13. 30. 00

7. 9. 15. 00

7. 9. 15. 00

700

7. 14. 30. 00

7. 10. 00

7. 10. 00

800

7. 15. 30. 00

7. 11. 15. 00

7. 11. 15. 00

900

7. 16. 30. 00

7. 12. 30. 00

7. 12. 30. 00

1000

7. 17. 30. 00

7. 13. 45. 00

7. 13. 45. 00

1100

7. 18. 30. 00

7. 14. 15. 00

7. 14. 15. 00

1200

7. 19. 30. 00

7. 15. 00

7. 15. 00

1300

7. 20. 30. 00

7. 15. 45. 00

7. 15. 45. 00

1400

7. 21. 30. 00

7. 16. 15. 00

7. 16. 15. 00

1500

7. 22. 30. 00

7. 16. 45. 00

7. 16. 45. 00

1600

7. 23. 30. 00

7. 17. 15. 00

7. 17. 15. 00

1700

7. 24. 30. 00

7. 17. 45. 00

7. 17. 45. 00

1800

7. 25. 30. 00

7. 18. 15. 00

7. 18. 15. 00

1900

7. 26. 30. 00

7. 18. 45. 00

7. 18. 45. 00

2000

7. 27. 30. 00

7. 19. 15. 00

7. 19. 15. 00

2100

7. 28. 30. 00

7. 19. 45. 00

7. 19. 45. 00

2200

7. 29. 30. 00

7. 20. 15. 00

7. 20. 15. 00

2300

7. 30. 30. 00

7. 20. 45. 00

7. 20. 45. 00

2400

7. 31. 30. 00

7. 21. 15. 00

7. 21. 15. 00

2500

7. 32. 30. 00

7. 21. 45. 00

7. 21. 45. 00

2600

7. 33. 30. 00

7. 22. 15. 00

7. 22. 15. 00

2700

7. 34. 30. 00

7. 22. 45. 00

7. 22. 45. 00

2800

7. 35. 30. 00

7. 23. 15. 00

7. 23. 15. 00

2900

7. 36. 30. 00

7. 23. 45. 00

7. 23. 45. 00

3000

7. 37. 30. 00

7. 24. 15. 00

7. 24. 15. 00

3100

7. 38. 30. 00

7. 24. 45. 00

7. 24. 45. 00

3200

7. 39. 30. 00

7. 25. 15. 00

7. 25. 15. 00

3300

7. 40. 30. 00

7. 25. 45. 00

7. 25. 45. 00

3400

7. 41. 30. 00

7. 26. 15. 00

7. 26. 15. 00

3500

7. 42. 30. 00

7. 26. 45. 00

7. 26. 45. 00

3600

7. 43. 30. 00

7. 27. 15. 00

7. 27. 15. 00

3700

7. 44. 30. 00

7. 27. 45. 00

7. 27. 45. 00

3800

7. 45. 30. 00

7. 28. 15. 00

7. 28. 15. 00

3900

7. 46. 30. 00

7. 28. 45. 00

7. 28. 45. 00

4000

7. 47. 30. 00

7. 29. 15. 00

7. 29. 15. 00

4100

7. 48. 30. 00

7. 29. 45. 00

7. 29. 45. 00

4200

7. 49. 30. 00

7. 30. 15. 00

7. 30. 15. 00

4300

7. 50. 30. 00

7. 30. 45. 00

7. 30. 45. 00

4400

7. 51. 30. 00

7. 31. 15. 00

7. 31. 15. 00

4500

7. 52. 30. 00

7. 31. 45. 00

7. 31. 45. 00

4600

7. 53. 30. 00

7. 32. 15. 00

7. 32. 15. 00

4700

7. 54. 30. 00

7. 32. 45. 00

7. 32. 45. 00

4800

7. 55. 30. 00

7. 33. 15. 00

7. 33. 15. 00

4900

7. 56. 30. 00

7. 33. 45. 00

7. 33. 45. 00

5000

7. 57. 30. 00

7. 34. 15. 00

7. 34. 15. 00

5100

7. 58. 30. 00

7. 34. 45. 00

7. 34. 45. 00

5200

7. 59. 30. 00

7. 35. 15. 00

7. 35. 15. 00

5300

7. 60. 30. 00

7. 35. 45. 00

7. 35. 45. 00

5400

7. 61. 30. 00

7. 36. 15. 00

7. 36. 15. 00

5500

7. 62. 30. 00

7. 36. 45. 00

7. 36. 45. 00

5600

7. 63. 30. 00

7. 37. 15. 00

7. 37. 15. 00

5700

7. 64. 30. 00

7. 37. 45. 00

7. 37. 45. 00

5800

7. 65. 30. 00

7. 38. 15. 00

7. 38. 15. 00

5900

7. 66. 30. 00

7. 38. 45. 00

7. 38. 45. 00

6000

7. 67. 30. 00

7. 39. 15. 00

7. 39. 15. 00

6100

7. 68. 30. 00

7. 39. 45. 00

7. 39. 45. 00

6200

7. 69. 30. 00

7. 40. 15. 00

7. 40. 15. 00

6300

7. 70. 30. 00

7. 40. 45. 00

7. 40. 45. 00

6400

7. 71. 30. 00

7. 41. 15. 00

7. 41. 15. 00

6500

7. 72. 30. 00

7. 41. 45. 00

7. 41. 45. 00

6600

7. 73. 30. 00

7. 42. 15. 00

7. 42. 15. 00

6700

7. 74. 30. 00

7. 42. 45. 00

7. 42. 45. 00

6800

Kauai Light, S 71° 30' E, 9<sup>5</sup>/<sub>10</sub>

OK  
J. H. S.

3400  
3300  
3200  
3100  
3000

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

2500 fms. - 600  
3000 fms. - 1000

## REMARKS:

Lat 37° 50' N, Long 122° 30' W. Sailed  
Tanner frame, net and aaron, net  
also float, ball, shadow, etc.

Dr. course (for E.C.) N.N.W.

507.  
 No. *Dr. 4049*. Date *11 July '02*.  
*Sigsbee* Machine. / Reel. *7500*  
 Turns *415* Cor. + *41* (Depth *456 fms.*)  
 Shot or lead *60 lbs.*  
 Bottom *fm, co. S. Fov.*  
 Bottom temperature *41. —*  
 No. of thermometer *92446* Cor. *{ 0.75*  
 Corrected temperature *{ 12.1*  
 Air *79°* Surface *78°* Drift  
 Trawl or dredge *8 Tangle. Sigsbee*

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>9.56.20</i>	<i>10.06.20</i>	0	<i>10.14.00</i>	<i>11.52.30</i>
<i>57.20</i>	<i>05.30</i>	100	<i>18.20</i>	<i>49.00</i>
<i>58.20</i>	<i>04.20</i>	200	<i>23.45</i>	<i>45.15</i>
<i>59.20</i>	<i>03.10</i>	300	<i>27.00</i>	<i>41.20</i>
<i>10.00.20</i>	<i>10.02.00</i>	400	<i>30.45</i>	<i>37.5</i>
		<i>415</i>	<i>34.05</i>	<i>33.05</i>
<i>Also made out</i>		500	<i>38.50</i>	<i>29.00</i>
		600	<i>42.55</i>	<i>24.45</i>
<i>Dr. 4049</i>		700	<i>10.47.25</i>	<i>11.20.00</i>
		800		
		900		
<i>P. at beginning 95.4</i>		1000	<i>3.2</i>	<i>minutes</i>
<i>at end of day 11.2</i>		1100		
<i>Run 0.9</i>		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Lat. 26° 30' S., 10 6/10'

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
4/5	3800	
4/1	3900	
4/6	4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Tangles = "No specimens"; water haul.			
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Dr. Course (Biology) 2.11.

No. *4497* Date *12 July 02.*Machine *Reel*Turns *484* Cor. + *45* Depth *529*Shot or lead *60*Bottom *gy. s. m.*

Bottom temperature

No. of thermometer *92446* Cor.

Corrected temperature

Air *78* Surface *78* Drift

Trawl or dredge

## SOUNDING WIRE.

## DREDGE ROPE.

DOWN.

UP.

TURNS.

DOWN.

UP.

<i>02.00</i>	<i>16.00</i>	0		
<i>03.30</i>	<i>14.45</i>	100		
<i>04.50</i>	<i>13.35</i>	200		
<i>06.00</i>	<i>12.25</i>	300		
<i>07.10</i>	<i>11.15</i>	400		
<i>08.10</i>	<i>10.10</i>	500		
<i>Marks end of</i>	<i>4049</i>	600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Station height, 8696 20' 5.11 7/10

		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
4830	257	3500	
		3600	
		3700	
		3800	
		3900	
		4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

22.0.

No. 1414 Date 13 July 1902

Machine. Reel.

Turns 62 Cor. + 6 Depth 68 fms.

Shot or lead 36

Bottom gy. sh. + sp.

Bottom temperature 73.0

No. of thermometer 92116 Cor.

Corrected temperature

Air 82 Surface 78 Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
2:07.30	09.25	0		
08.10	108.40	62		
		100		
		200		
		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kauai Light, N 43° E, 7.0

Corrections N. 47° E.

610.  
5.00  
2.2

4830

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No. *21899* Date *July 4 1902*  
 Machine. *1* Reel. *1*  
 Turns *184* Cor. + *15* Depth *169 fms*  
 Shot or lead *36*  
 Bottom *fine G. S. M.*  
 Bottom temperature *39.5*  
 No. of thermometer *92446* Cor.  
 Corrected temperature  
 Air *80* Surface *78* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>2:51.10</i>	<i>3.01.00</i>	0		
<i>45.00</i>	<i>59.56</i>	100		
<i>51.30</i>	<i>7.57.10</i>	<i>154</i>		
		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kona Bay Light 1133-5 132

Course: N. 55° E.

✓  
672

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
	3700	
	3800	
	3900	
	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

No.

Date

Machine.

Reel.

Turns

Cor. +

Depth

Shot or lead

Bottom

Bottom temperature

No. of thermometer

Cor.

Corrected temperature

Air

Surface

Drift

Trawl or dredge

## SOUNDING WIRE.

DOWN.

UP.

TURNS.

## DREDGE ROPE.

DOWN.

UP.

0.00

2.15.05

0

0.45

34.0

100

1.50

52.10

200

2.15.00

2.15.00

2100

400

500

600

700

800

900

1000

1100

1200

1300

1400

1500

1600

1700

1800

1900

2000

2100

2200

2300

2400

Kauai Re Light, N 24° 3', 17240  
 Cor: 17.6102.

2500  
 2600  
 2700  
 2800  
 2900  
 3000  
 3100  
 3200  
 3300  
 3400  
 3500  
 3600  
 3700  
 3800  
 3900  
 4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

R.L. = 37.00

Anchor

No. 4501

Date Feb. '02

Sigsbee Machine / Reel Navy

Turns 720 Cor. + 72 Depth 792 fms.

Shot or lead 36 lbs.

Bottom fine gy S.

Bottom temperature 37.3

No. of thermometer 92446 Cor.

Corrected temperature

Air 80° Surface 78° Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
4. 40.25	4. 57.05	0		
41.15	56.05	100		
42.10	55.05	200		
43.05	54.05	300		
44.10	53.05	400		
45.15	52.05	500		
46.20	51.00	600		
47.25	49.45	700		
4. 48.00	4. 49.30	720		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Station 15  
 Lat: 25° 30' S, 17-1-15  
 Cor: 18640302.

61  
 1720  
 172  
 1792

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

P.L. 39 -

Am. S. 1

No. *44* 4502 Date *13 July*  
*21500* Machine. *M* / Reel. *7007*  
 Turns *1227* Cor. + *115* Depth *1342 fms.*  
 Shot or lead *60 lbs.*  
 Bottom *gy. gy. S. fine*  
 Bottom temperature *35.5*  
 No. of thermometer *92446* Cor.  
 Corrected temperature  
 Air *80°* Surface *78°* Drift  
 Trawl or dredge.

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>5. 18. 10</i>	<i>5. 15. 00</i>	0		
<i>19. 25</i>	<i>44. 00</i>	100		
<i>19. 50</i>	<i>42. 50</i>	200		
<i>20. 40</i>	<i>41. 40</i>	300		
<i>21. 30</i>	<i>40. 30</i>	400		
<i>22. 15</i>	<i>39. 20</i>	500		
<i>23. 15</i>	<i>38. 10</i>	600		
<i>24. 10</i>	<i>38. 00</i>	700		
<i>25. 10</i>	<i>36. 50</i>	800		
<i>26. 10</i>	<i>35. 40</i>	900		
<i>27. 10</i>	<i>34. 30</i>	1000		
<i>28. 15</i>	<i>33. 20</i>	1100		
<i>29. 20</i>	<i>32. 10</i>	1200		
<i>5. 29. 30</i>	<i>5. 31. 00</i>	<i>1227</i>		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kauaihae Light, N 23° E, 23 <sup>5</sup>/<sub>10</sub>'  
 Cor = N. 67 E.

2500  
 2600  
 2700  
 2800  
 2900  
 3000  
 3100  
 3200  
 3300  
 3400  
 3500  
 3600  
 3700  
 3800  
 3900  
 4000

4830 257  
 1797 142  
 3603 115  
 1227  
 1342

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

P.L. = 44.00

No. 54 45-03 Date 13 Aug '02

Machine. / Reel. Turns 7552 Cor. + 116 Depth 1693 fms.

Shot or lead 60 lbs.

Bottom gy S. Fv.

Bottom temperature 35.1

No. of thermometer 92449 Cor.

Corrected temperature

Air 81° Surface 78° Drift

Trawl or dredge

SOUNDING WIRE.

DOWN.

UP.

TURNS.

DREDGE ROPE.

DOWN.

UP.

6. 28.30	7.03.45	0
29.15	02.45	100
30.10	01.50	200
31.00	7.00.50	300
32.00	59.50	400
33.00	58.55	500
34.05	57.55	600
35.10	56.55	700
36.15	55.50	800
37.25	54.45	900
38.30	53.45	1000
39.40	52.40	1100
40.45	51.30	1200
42.00	50.15	1300
43.10	49.00	1400
44.20	47.45	1500
6. 45.00	6.46.50	1552
		1600
		1700
		1800
		1900
		2000
		2100
		2200
		2300
		2400

Kiahole Point, 850° 30' E, 10 2/10'

OK  
3100

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

4000  
1552  
3274

257  
116  
140  
1552  
1693

fine.  
3900

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

P.L. 49.-

No. 4504 Date 12 July 02.

Sigsbee Machine. Reel. 11000

Turns 1219 Cor. + 143 Depth 1333 fms.

Shot or lead 60 Lbs.

Bottom For. Sand fr.

Bottom temperature 35.6

No. of thermometer 92446. Cor.

Corrected temperature

Air 79° Surface 78° Drift

Trawl or dredge

## SOUNDING WIRE.

DOWN.

UP.

## TURNS.

## DREDGE ROPE.

DOWN.

UP.

7.50.50	8.17.05	0		
51.40	16.05	100		
52.30	15.00	200		
53.20	14.05	300		
54.15	13.00	400		
55.10	12.00	500		
56.10	10.50	600		
57.15	09.50	700		
58.15	08.55	800		
59.25	07.45	900		
8. 00.20	06.15	1000		
01.50	05.25	1100		
02.55	04.20	1200		
8. 03.10	8. 04.00	1219		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Station Name: 2547. 7/10

		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
		3500	
		3600	
1.820	2.500	3700	
12.19	14.3	3800	
36.11	1.14	3900	
	12.19	4000	
		4100	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Oct 7, 51

on  
Tide gauge

No. 1450 Date July 13, 1902.

Machine. #1 Reel.

Turns 955 Cor. + 93 Depth 1048 fms

Shot or lead 60 lbs.

Bottom None

Bottom temperature

No. of thermometer 75446 Cor.

Corrected temperature

Air 79 Surface 77 Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
44.5	04.20	0		
45.45	03.15	100		
46.45	02.15	200		
47.25	01.15	300		
48.30	9-00.20	400		
49.15	59.20	500		
50.05	58.20	600		
50.55	57.15	700		
51.45	56.15	800		
52.35	55.15	900		
53.25	54.30	955		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Course  
E. S. E. (approx)

Keahole Point, 851°45'E, 5<sup>2</sup>/<sub>10</sub>'

		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
		3500	
4830	257	3600	
955	164	3700	
3875	93	3800	
	955	3900	
	1048	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

When 25 fms. were out  
 were caught in propeller  
 and carried away.  
 Lost 20 fms. of wire,  
 cups, thermometer No  
 93446 and small lead,  
 stray line.

No. *4506* Date *July 13, 1902*Machine. *Sigsbee* Reel. *Hand*Turns *502* Cor. + *50* Depth *552 fms*Shot or lead *60 lbs*Bottom *gy S. gy. Lm. fr.*Bottom temperature *43°*No. of thermometer *75442* Cor.

Corrected temperature

Air *79* Surface *77* Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>9-51.20</i>	<i>02.10</i>	0		
<i>52.25</i>	<i>10.01</i>	100		
<i>53.05</i>	<i>59.50</i>	200		
<i>53.55</i>	<i>58.40</i>	300		
<i>54.45</i>	<i>57.45</i>	400		
<i>55.40</i>	<i>56.25</i>	500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Station 83605 E. 2510.

		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
		3500	
4810	255	3600	
		3700	
		3800	
		3900	
		4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Under E.S.E. (4000)

*Antennae* *Net Log. 54*

No. *4507* Date *July 13, 1902.*  
*Sigsbee* Machine. #1 Reel. *Hand.*  
 Turns *70* Cor. + *7* Depth *77 fms*  
~~Shot or lead~~ *36 lbs.*  
 Bottom *cr. lo*  
 Bottom temperature *73*  
 No. of thermometer *92442* Cor.  
 Corrected temperature  
 Air *78* Surface *75* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>10-17.35</i>	<i>20 =</i>	0		
<i>18.20</i>	<i>19.10</i>	100		
		200		
		300		
		400		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Latitude 32° 55' N

66  
H.C.  
70

4810 250

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Under E.S.E. (7.45)

507  
 No. *4508* Date *July 13<sup>th</sup>*  
*Sigsbee* Machine. Reel. *Heavy*  
 Turns *450* Cor. + *45* Depth *495 fms*  
 Shot or lead *35 lbs*  
 Bottom *gy S bk sh + co Lm*  
 Bottom temperature *40*  
 No. of thermometer *92442* Cor.  
 Corrected temperature  
 Air *79* Surface *78* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>10-50.50</i>	<i>11-00.30</i>	0		
<i>51.50</i>	<i>59.25</i>	100		
<i>52.40</i>	<i>58.20</i>	200		
<i>53.30</i>	<i>57.10</i>	300		
<i>54.20</i>	<i>56.10</i>	400		
<i>54.50</i>	<i>55.30</i>	500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kad. 10. 10. 1885. 12. 10.

		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
		3500	
4810	2.5	3600	
		3700	
		3800	
		3900	
		4000	

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Under 100 (green)

*Antonia* *Pat 60*

No. *4507* Date *July 13*

*Sigsbee* Machine. # *1* Reel. *Heavy*

Turns *728* Cor. + *78* Depth *801 fms*

Shot or lead *60 lbs.*

Bottom *gy. s. br. m.*

Bottom temperature *37.5*

No. of thermometer *92442* Cor.

Corrected temperature

Air *79* Surface *78* Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>PM 33.00</i>	<i>48.35</i>	0		
<i>33.40</i>	<i>47.30</i>	100		
<i>34.25</i>	<i>46.25</i>	200		
<i>35.10</i>	<i>45.25</i>	300		
<i>36.05</i>	<i>44.15</i>	400		
<i>36.55</i>	<i>43.40</i>	500		
<i>37.50</i>	<i>42.25</i>	600		
<i>38.45</i>	<i>40.10</i>	700		
<i>39.45</i>	<i>37.00</i>	800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Washoe Point, N 20° E, 2 1/2

16  
X 08.  
X 13

728  
13  
401

4510 255

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

# SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Course S. 20° E (true)

620-

No. 1010 Date 14 July 1902  
Machine. Reel.  
Turns 900 Cor. + 88 Depth 988  
Shot or lead 60  
Bottom gy. S. Br. Lm. fr  
Bottom temperature 78.2  
No. of thermometer 9244K Cor.  
Corrected temperature  
Air 78 Surface 72 Drift  
Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
12.31.10	12.44.30	0		
12.00	40.75	100		
12.15	39.20	200		
12.30	36.20	300		
12.45	37.10	400		
12.55	34.10	500		
13.05	31.10	600		
13.15	28.40	700		
13.30	27.20	800		
13.45	24.21.00	900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kearney Point, 34 10° 5' N 43° 1'

676  
1100

4810

21.5

355 11.7

355 11.8

355 11.8

355 11.8

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Boxed S.S. 5.5 (11.5)

660

No. 14511 Date July 1906  
Machine 1 Reel

Turns 878 Cor. + 878 Depth 965 fms

Shot or lead 60

Bottom gy S. br. fine for

Bottom temperature

No. of thermometer 9222 Cor.

Corrected temperature

Air 78 Surface 77 Drift

Trawl or dredge

SOUNDING WIRE.

DREDGE ROPE.

DOWN.

UP.

TURNS.

DOWN.

UP.

1. 15.15	7. 25.00	0
15.30	23.50	100
16.45	22.50	200
17.20	21.40	300
18.10	20.30	400
19.20	19.10	500
20.00	18.00	600
21.00	16.40	700
22.00	15.20	800
1. 23.00	14.00	878
		900
		1000
		1100
		1200
		1300
		1400
		1500
		1600
		1700
		1800
		1900
		2000
		2100
		2200
		2300
		2400

St. John Point N 20 E 1/2 mi

0.100  
1.000  
/

4710 715  
877 165  
3732 9  
878  
065

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

bottom S = 1/2 sec.

No.

1517

Date

/

19

190

Machine

Reel

Haw

Turns

951

Cor. +

97

Depth

1043

Shot or lead

60

Bottom

gy. s. m.

Bottom temperature

37

No. of thermometer

92442

Cor.

Corrected temperature

Air

79

Surface

77

Drift

Trawl or dredge

## SOUNDING WIRE.

DOWN.

UP.

## TURNS.

## DREDGE ROPE.

DOWN.

UP.

11. 20 30.00  
 12. 00 28.15  
 13. 00 27.41  
 14. 00 26.46  
 15. 00 25.30  
 16. 00 24.01  
 17. 00 22.50  
 18. 00 21.30  
 19. 00 20.00  
 20. 00 18.40  
 21. 00 17.10  
 22. 00 15.50  
 23. 00 14.30  
 24. 00 13.10  
 25. 00 11.50  
 26. 00 10.30  
 27. 00 09.10  
 28. 00 07.50  
 29. 00 06.30  
 30. 00 05.10  
 31. 00 03.50  
 32. 00 02.30  
 33. 00 01.10  
 34. 00 00.00

0  
 100  
 200  
 300  
 400  
 500  
 600  
 700  
 800  
 900

951

1100  
 1200  
 1300  
 1400  
 1500  
 1600  
 1700  
 1800  
 1900  
 2000  
 2100  
 2200  
 2300  
 2400

Keahole Point, N. 1974. 21 5  
1 10'

		2500	
		2600	
		2700	
		2800	
		2900	
		3000	
		3100	
		3200	
		3300	
		3400	
		3500	
4	163	3600	
0.51	33	3700	
3'09	41	3800	
		3900	
	1044	4000	

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Current 5.5 kts. S.

05: 31.0

No. 4513 Date 14 July 08

Machine. Reel.

Turns 765 Cor. 76 Depth 841 fms

Shot or lead 60 #

Bottom for gy. d. for glass for

Bottom temperature 37

No. of thermometer 92441 Cor.

Corrected temperature

Air 79 Surface 77 Drift

Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
2.37.00	3.10.40	0		
2.41.30	06.40	100		
5.5.10	06.30	200		
5.10.00	06.20	300		
5.15.50	06.10	400		
5.21.40	06.00	500		
5.27.30	05.50	600		
5.33.20	05.40	700		
5.39.10	05.30	800		
5.45.00	05.20	900		
5.50.50	05.10	1000		
5.56.40	05.00	1100		
6.02.30	04.50	1200		
6.08.20	04.40	1300		
6.14.10	04.30	1400		
6.20.00	04.20	1500		
6.25.50	04.10	1600		
6.31.40	04.00	1700		
6.37.30	03.50	1800		
6.43.20	03.40	1900		
6.49.10	03.30	2000		
6.55.00	03.20	2100		
7.00.50	03.10	2200		
7.06.40	03.00	2300		
7.12.30	02.50	2400		

Keelakakun Light, S 46° E, 7 1/2 miles.

OK  
10.

4870 21.5

756  
41

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Under S.S.C. (424)

No. *4014* Date *12 July 07*  
 Machine. | Reel.  
 Turns *389* Cor. + *39* Depth *428*  
 Shot or lead *60*  
 Bottom *Spec. Green*  
 Bottom temperature *41.1*  
 No. of thermometer *9212* Cor.  
 Corrected temperature  
 Air *79* Surface *77* Drift  
 Trawl or dredge

SOUNDING WIRE.		TURNS.	DREDGE ROPE.	
DOWN.	UP.		DOWN.	UP.
<i>3:40.00</i>	<i>3:49.00</i>	0		
<i>41.15</i>	<i>41.15</i>	100		
<i>41.50</i>	<i>41.50</i>	200		
<i>42.30</i>	<i>42.30</i>	300		
<i>43.00</i>	<i>43.30</i>	<i>389</i>		
		500		
		600		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kialakeku Light 837-2.1 E, 5-15

OK  
J. L. D.  
/

4570 21.5

38.4  
3  
2.8  
4

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS: (unclear)

No. *444515* Date *14 July '02*Sigsbee Machine. \* / Reel. *1*Turns *6572* Cor. + *57* Depth *6515 fms.*Shot or lead *60 lbs.*Bottom *gy. S. fine sand*Bottom temperature *38.6*No. of thermometer *92442* Cor.

Corrected temperature

Air *79°* Surface *77°* Drift

Trawl or dredge

## SOUNDING WIRE.

## DREDGE ROPE.

DOWN.	UP.	TURNS.	DOWN.	UP.
<i>4. 40.00</i>	<i>4. 53.30</i>	0		
<i>41.00</i>	<i>52.25</i>	100		
<i>41.50</i>	<i>51.20</i>	200		
<i>42.50</i>	<i>50.15</i>	300		
<i>43.40</i>	<i>49.10</i>	400		
<i>44.35</i>	<i>48.00</i>	500		
<i>4. 45.15</i>	<i>4. 47.00</i>	<i>525</i> <del>600</del>		
		700		
		800		
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

Conc. (1902) 5.2.2.

No.

Date

Machine. / Reel.

Turns 708 Cor. + 70 Depth 778 fms.

Shot or lead 60 Lbs.

Bottom gy S. For.

Bottom temperature

No. of thermometer 92442 Cor.

Corrected temperature

Air 78° Surface 77° Drift

Trawl or dredge

## SOUNDING WIRE.

DOWN.

UP.

## TURNS.

## DREDGE ROPE.

DOWN.

UP.

√. 23.50	√. 38.40	0
24.35	37.40	100
25.20	36.40	200
26.10	35.35	300
27.00	34.30	400
27.50	33.30	500
28.45	32.30	600
√. 29.45	√. 31.15	700
		708
		800
		900
		1000
		1100
		1200
		1300
		1400
		1500
		1600
		1700
		1800
		1900
		2000
		2100
		2200
		2300
		2400

Kalamukua Lipt. S 74° E. 2 <sup>8</sup>/<sub>10</sub>°.

OK  
JTS.

	2500	
	2600	
	2700	
	2800	
	2900	
	3000	
	3100	
	3200	
	3300	
	3400	
	3500	
	3600	
708	3700	
70	3800	
778	3900	
	4000	

#### SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25				
50				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1000				

REMARKS:

Correct S.C. S.C.A.

No. *4050* Date *14 July '02.*Tanner Machine. — Reel. *A*Turns *13* Cor. + *1* Depth *14 fms.*Shot or lead *26*Bottom *frag. Co. R*

Bottom temperature

No. of thermometer *None* Cor.

Corrected temperature

Air *78°* Surface *78°* Drift *1 1/10'*Trawl or dredge *8 ft. Tangles on frame.*

## SOUNDING WIRE.

## DREDGE ROPE.

DOWN.	UP.	TURNS.	DOWN.	UP.
<i>7.24.01</i>		<i>13</i>	<i>24.30</i>	<i>55.00</i>
		<i>15.00</i>	<i>25.00</i>	
		<i>20</i>	<i>25.30</i>	<i>52.05</i>
		<i>300</i>		
		<i>400</i>	<i>25.41. From</i>	
		<i>500</i>	<i>25.42. From</i>	
		<i>600</i>		
		<i>700</i>		
		<i>800</i>		
		<i>900</i>		
		<i>1000</i>		
		<i>1100</i>		
		<i>1200</i>		
		<i>1300</i>		
		<i>1400</i>		
		<i>1500</i>		
		<i>1600</i>		
		<i>1700</i>		
		<i>1800</i>		
		<i>1900</i>		
		<i>2000</i>		
		<i>2100</i>		
		<i>2200</i>		
		<i>2300</i>		
		<i>2400</i>		

Kalakekua Light, N 10° W.  $\frac{5}{16}$ '.

OK  
H.W.  
5

496  
13  
483

12  
15  
13  
14

2500  
2600  
2700  
2800  
2900  
3000  
3100  
3200  
3300  
3400  
3500  
3600  
3700  
3800  
3900  
4000

SERIAL TEMPERATURES.

DEPTH.	TEMP.	NO. OF THER.	COR.	COR. TEMP.
25	Tangles:			
50	Corallines; foliaceous and			
100	branching corals; little sponge;			
200	sea urchins with very large			
300	spines encrusted with coral			
400	lines and sponge with gastro-			
500	pods attached - numerous.			
600				
700				
800				
900				
1000				

REMARKS:

*Antelminson*  
 No. *4051* Date *July 14-02*  
 Tanner Machine. Reel.  
 Turns *207* Cor. + *8* Depth *215 fms*  
 Shot or lead *26 lbs.*  
 Bottom *vol. R.*  
 Bottom temperature  
 No. of thermometer *None* Cor.  
 Corrected temperature  
 Air *83* Surface *79* Drift *(N 57° W 1.0')*  
 Trawl or dredge *8 hemp Tangles on frame*

## SOUNDING WIRE.

## DREDGE ROPE.

DOWN.	UP.	TURNS.	DOWN.	UP.
<i>7-58.00</i>	<i>04.40</i>	0	<i>8-07.25</i>	<i>09.25</i>
<i>58.45</i>	<i>03.20</i>	100	<i>11.50</i>	<i>05.10</i>
<i>59.20</i>	<i>8-00.10</i>	200	<i>15.55</i>	<i>7-01.30</i>
		300	<i>19.40</i>	<i>57.55</i>
<i>Marks ind</i>		400	<i>* 23.10</i>	<i>54.20</i>
<i>5 4050</i>		500	<i>34.50</i>	<i>50.20</i>
		600		
		700		
		800	<i>27 min</i>	
		900		
		1000		
		1100		
		1200		
		1300		
		1400		
		1500		
		1600		
		1700		
		1800		
		1900		
		2000		
		2100		
		2200		
		2300		
		2400		

Kalakakua Light N 63° E, 1  $\frac{2}{10}$ '.

OK  
JTB.  
15

496      1 2  
207      4

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289      8

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207

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215

Tangles:

Several spiral antipathar-  
ians; sponge and coral  
fragments.

80486 X